

AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (Currently Amended) A method of modifying a subscription of a subscriber to one or
2 more telecommunications services based on subscriber information and service
3 information that are stored in a directory repository, the method comprising the
4 computer-implemented steps of:
5 determining whether the subscriber is currently logged in, and if the subscriber is not
6 currently logged in, directing the subscriber to log in through an
7 authentication server and generating, by an authorization service, a privilege
8 token associated with the authenticated subscriber that includes subscriber
9 privilege information ~~by an authorization service~~, wherein said authorization
10 service is separate from said authentication server;
11 receiving a modification request to modify the subscription of the subscriber to the
12 one or more telecommunication services;
13 determining, based on subscriber privilege information in the privilege token
14 associated with the subscriber generated by the authorization service, whether
15 the subscriber has privileges ~~services~~ sufficient to carry out the requested
16 modification;
17 if the subscriber is determined to have sufficient privileges, then performing the steps
18 of:
19 receiving, from the directory repository, first subscriber information and first
20 service information representing only such services for which the
21 subscriber is then currently subscribed;

22 modifying the first subscriber information and first service information to
23 reflect the modification;
24 sending the modified information to the directory repository, resulting in
25 creating and storing, in the directory repository, second service
26 information that reflects the modification;
27 generating an engagement request to engage the telecommunications service
28 for the subscriber in order to fulfill the modification request.

1 2. (Currently Amended) A method as recited in Claim 1, wherein the authorization
2 service generates the privilege token by the steps of:
3 receiving a user name associated with the subscriber and mapping the user name to a
4 distinguished name in the directory repository;
5 creating and storing as subscriber privilege information in the privilege token one or
6 more roles occupied by the subscriber based on role information that is stored
7 in the directory repository, said stored role information including mapping
8 information that maps a role to one or more privileges that specify which
9 telecommunications services a subscriber having that role can subscribe to.

1 3. (Previously Presented) A method as recited in Claim 1, wherein the step of
2 determining whether the subscriber is currently logged in comprises determining whether a
3 host object that uniquely identifies the subscriber exists, and wherein the privilege token
4 associated with the subscriber is stored with the host object that uniquely identifies the
5 subscriber.

1 4. (Previously Presented) A method as recited in Claim 1, wherein the step of generating
2 an engagement request comprises the steps of subscribing the subscriber to the service by
3 creating and storing a relation of a subscriber object that programmatically represents the
4 subscriber to a service object that programmatically represents the service, and creating and
5 storing one or more attribute values in the relation, wherein the attribute values define the
6 subscription.

1 5. (Currently Amended) A method of modifying subscriptions of a group of subscribers
2 to one or more telecommunications services based on subscriber information and service
3 information that are stored in a directory repository, the method comprising the computer-
4 implemented steps of:

5 receiving from an administrator of the group, a request to modify the subscriptions of
6 the subscribers to the one or more telecommunications services;
7 determining, based on subscriber privilege information in a privilege token that is
8 associated with the administrator and is generated by an authorization service,
9 whether the administrator has privileges sufficient to carry out the requested
10 modification;

11 if the administrator is determined to have sufficient privileges, then performing the
12 steps of:

13 receiving, from the directory repository, current subscriber information and
14 current service information representing then-current services to which
15 the subscribers are subscribed;
16 modifying the subscriber information and service information to reflect the
17 modifications, resulting in creating and storing, in the directory
18 repository, updated service information that reflects the modifications;

19 generating one or more requests to subscribe the telecommunications service
20 to the group of subscribers to fulfill the request of the administrator.

1 6. (Original) A method as recited in Claim 5, wherein the group of subscribers is
2 defined explicitly by creating and storing a named group that contains one or more
3 subscribers as group members.

1 7. (Original) A method as recited in Claim 5, wherein the group of subscribers is
2 defined implicitly such that the group comprises one or more subscribers in an object tree of
3 the directory repository who are subordinate in the tree to a container node of the tree.

1 8. (Original) A method as recited in Claim 5, further comprising the steps of subscribing
2 one of the subscribers in the group to the service by creating and storing a relation of a
3 subscriber object that programmatically represents the subscriber to a service object that
4 programmatically represents the service, and creating and storing one or more attribute
5 values in the relation, wherein the attribute values define the subscription.

1 9. (Currently Amended) A method of automatically logging in a subscriber to all
2 telecommunications services subscribed to by the subscriber based on subscriber information
3 and service information that are stored in a directory repository, the method comprising the
4 computer-implemented steps of:
5 receiving a request from the subscriber to log in to the telecommunications services;
6 authenticating the subscriber by an authentication server;

7 generating a privilege token associated with the subscriber by an authorization
8 service, said privilege token including subscriber privilege information,
9 wherein said authorization service is separate from said authentication server;
10 determining whether the subscriber is allowed to automatically log into the
11 telecommunication services, said determination based on subscriber privilege
12 information in the privilege token associated with the subscriber;
13 if the subscriber is allowed to automatically log into the telecommunications services,
14 receiving, from the directory repository, a list of all services for which the
15 subscriber is then currently subscribed, and automatically logging the
16 subscriber into all services identified in the list.

1 10. (Original) A method as recited in Claim 9, wherein automatically logging the
2 subscriber into all services identified in the list comprises the steps of:
3 for each of the services identified in the list:
4 obtaining service information that describes the services from the directory
5 repository;
6 creating and storing a relation between a service object in the directory repository that
7 uniquely identifies and represents each of the services and privileges of the
8 subscriber, and a subscriber object that uniquely represents the subscriber.

1 11. (Original) A method as recited in Claim 10, further comprising the steps of storing
2 the privilege token in a service selection gateway for use in subsequent authorization
3 processes relating to the subscriber.

1 12. (Cancelled)

1 13. (Previously Presented) A method of automatically subscribing a subscriber to a
2 telecommunications service based on subscriber information and service information that are
3 stored in a directory repository, the method comprising the computer-implemented steps of:
4 receiving a request from the subscriber to obtain a list of available
5 telecommunications services;
6 generating a list of only those telecommunications services for which the subscriber
7 has a privilege to subscribe to, based on privilege information and service
8 information that is stored in the directory repository and associated with the
9 subscriber, said privilege information associated with the subscriber
10 specifying what telecommunications services the subscriber has privileges to
11 subscribe to;
12 receiving a subscriber selection of one of the telecommunications services from the
13 generated list of telecommunications services;
14 verifying that the subscriber has privileges that permit the subscriber to subscribe to
15 the selected telecommunications service;
16 creating and storing updated subscription information in the directory repository;
17 generating a request to subscribe the subscriber to the selected telecommunications
18 service based on the updated subscription information.

1 14. (Previously Presented) A method as recited in Claim 13, wherein said privilege
2 information associated with the subscriber is comprised of a privilege token for the
3 subscriber that identifies a role of the subscriber, wherein the privileges of the subscriber to
4 subscribe to a telecommunications service is determined by the role in the privilege token for
5 the subscriber.

1 15. (Original) A method as recited in Claim 13, wherein generating a list of only those
2 telecommunications services for which the subscriber has a privilege to subscribe to includes
3 the step of generating and providing to the subscriber a custom display page that identifies
4 only those telecommunications services for which the subscriber has a privilege to subscribe.

1 16. (Currently Amended) A computer-readable medium carrying one or more sequences
2 of instructions for modifying a subscription of a subscriber to one or more
3 telecommunications services based on subscriber information and service information that
4 are stored in a directory repository, which instructions, when executed by one or more
5 processors, cause the one or more processors to carry out the steps of:
6 determining whether the subscriber is currently logged in, and if the subscriber is not
7 currently logged in, directing the subscriber to log in through an
8 authentication server and generating, by an authorization service, a privilege
9 token associated with the authenticated subscriber that includes subscriber
10 privilege information ~~by an authorization service~~, wherein said authorization
11 service is separate from said authentication server;
12 receiving a modification request to modify the subscription of the subscriber to the
13 one or more telecommunications services;
14 determining, based on subscriber privilege information in the privilege token
15 associated with the subscriber generated by the authorization service, whether
16 the subscriber has privileges sufficient to carry out the requested modification;
17 if the subscriber is determined to have sufficient privileges, the one or more
18 sequences of instructions which, when executed, further cause the one or more
19 processors to carry out the steps of:

20 receiving, from the directory repository, first subscriber information and first
21 service information representing only such services for which the
22 subscriber is then currently subscribed;
23 modifying the first subscriber information and first service information to
24 reflect the modification;
25 sending the modified information to the directory repository, resulting in
26 creating and storing, in the directory repository, second service
27 information that reflects the modification;
28 generating an engagement request to engage the telecommunications service
29 for the subscriber in order to fulfill the modification request.

1 17. (Currently Amended) An apparatus for modifying a subscription of a subscriber to
2 one or more telecommunications services based on subscriber information and service
3 information that are stored in a directory repository, comprising:
4 means for determining whether the subscriber is currently logged in, and if the
5 subscriber is not currently logged in, means for directing the subscriber to log
6 in through an authentication server and means for generating a privilege token
7 associated with the authenticated subscriber by an authorization service, said
8 privilege token including subscriber privilege information, wherein said
9 authorization service is separate from said authentication server;
10 means for receiving a modification request to modify the subscription of the
11 subscriber to the one or more telecommunications services;
12 means for determining, based on subscriber privilege information in the privilege
13 token associated with the subscriber generated by the authorization service,

14 whether the subscriber has privileges sufficient to carry out the requested
15 modification;
16 means for receiving, from the directory repository, first subscriber information and
17 first service information representing only such services for which the
18 subscriber is then currently subscribed;
19 means for modifying the first subscriber information and first service information to
20 reflect the modification;
21 means for sending the modified information to the directory repository, resulting in
22 creating and storing, in the directory repository, second service information
23 that reflects the modification;
24 means for generating an engagement request to engage the telecommunications
25 service for the subscriber in order to fulfill the modification request.

1 18. (Currently Amended) An apparatus for modifying a subscription of a subscriber to
2 one or more telecommunications services based on subscriber information and service
3 information that are stored in a directory repository, comprising:
4 a network interface that is coupled to a data network that includes the directory
5 repository for receiving information therefrom;
6 a processor;
7 one or more stored sequences of instructions which, when executed by the processor,
8 cause the processor to carry out the steps of:
9 determining whether the subscriber is currently logged in, and if the
10 subscriber is not currently logged in, directing the subscriber to log in
11 through an authentication server and generating, by an authorization
12 service, a privilege token associated with the authenticated subscriber

13 that includes subscriber privilege information by an authorization
14 ~~service~~, wherein said authorization service is separate from said
15 authentication server;
16 receiving a modification request to modify the subscription of the subscriber
17 to the one or more telecommunications services;
18 determining, based on subscriber privilege information in the privilege token
19 associated with the subscriber that is generated by the authorization
20 service, whether the subscriber has privileges sufficient to carry out
21 the requested modification;
22 if the subscriber is determined to have sufficient privileges, the one or more
23 sequences of instructions which, when executed, further cause the
24 processor to:
25 receiving, from the directory repository, first subscriber information
26 and first service information representing only such services
27 for which the subscriber is then currently subscribed;
28 modifying the first subscriber information and first service information
29 to reflect the modification;
30 sending the modified information to the directory repository, resulting
31 in creating and storing, in the directory repository, second
32 service information that reflects the modification;
33 generating an engagement request to engage the telecommunications
34 service for the subscriber in order to fulfill the modification
35 request.

1 19. (Previously Presented) A method of modifying a subscription of a subscriber to a
2 telecommunications service based on information stored in a directory repository, the method
3 comprising the computer-implemented steps of:

4 receiving a request to identify one or more services to which a subscriber is
5 subscribed, based on a prior request to modify the subscription of the
6 subscriber to the telecommunications service;
7 generating a list of the one or more services to which the subscriber is currently
8 subscribed, based on group membership of the subscriber, one or more roles
9 occupied by the subscriber, and authorization information associated with the
10 subscriber that is stored in the directory repository, wherein said one or more
11 roles are mapped to one or more privileges that specify which
12 telecommunications services a subscriber having that role can subscribe to;
13 generating individual service information for each of the one or more services in the
14 list, based on subscriber information and service information that is stored in
15 the directory repository, for use in automatically subscribing the subscriber to
16 a service that is represented by the individual service information.

1 20. (Previously Presented) A computer-readable medium carrying one or more sequences
2 of instructions for modifying a subscription of a subscriber to a telecommunications service
3 based on subscriber information and service information that are stored in a directory
4 repository, which instructions, when executed by one or more processors, cause the one or
5 more processors to carry out the steps of:

6 receiving a request to identify one or more services to which a subscriber is
7 subscribed, based on a prior request to modify the subscription of the
8 subscriber to the telecommunications service;

9 generating a list of the one or more services to which the subscriber is currently
10 subscribed, based on group membership of the subscriber, one or more roles
11 occupied by the subscriber, and authorization information associated with the
12 subscriber that is stored in the directory repository, wherein said one or more
13 roles are mapped to one or more privileges that specify which
14 telecommunications services a subscriber having that role can subscribe to;
15 generating individual service information for each of the one or more services in the
16 list, based on subscriber information and service information that is stored in
17 the directory repository, for use in automatically subscribing the subscriber to
18 a service that is represented by the individual service information.

1 21. (Previously Presented) An apparatus for modifying a subscription of a subscriber to a
2 telecommunications service based on subscriber information and service information that are
3 stored in a directory repository, comprising:
4 means for receiving a request to identify one or more services to which a subscriber is
5 subscribed, based on a prior request to modify the subscription of the
6 subscriber to the telecommunications service;
7 means for generating a list of the one or more services to which the subscriber is
8 currently subscribed, based on group membership of the subscriber, one or
9 more roles occupied by the subscriber, and authorization information
10 associated with the subscriber that is stored in the directory repository,
11 wherein said one or more roles are mapped to one or more privileges that
12 specify which telecommunications services a subscriber having that role can
13 subscribe to;

14 means for generating individual service information for each of the one or more
15 services in the list, based on subscriber information and service information
16 that is stored in the directory repository, for use in automatically subscribing
17 the subscriber to a service that is represented by the individual service
18 information.

1 22. (Previously Presented) An apparatus for modifying a subscription of a subscriber to a
2 telecommunications service based on subscriber information and service information that are
3 stored in a directory repository, comprising:
4 a directory-enabled service selection framework that is coupled to the directory
5 repository for receiving stored information therefrom;
6 a processor;
7 one or more stored sequences of instructions in the framework which, when executed
8 by the processor, cause the processor to carry out the steps of:
9 receiving a request to identify one or more services to which a subscriber is
10 subscribed, based on a prior request to modify the subscription of the
11 subscriber to the telecommunications service;
12 generating a list of the one or more services to which the subscriber is
13 currently subscribed, based on group membership of the subscriber,
14 one or more roles occupied by the subscriber, and authorization
15 information associated with the subscriber that is stored in the
16 directory repository, wherein said one or more roles are mapped to one
17 or more privileges that specify which telecommunications services a
18 subscriber having that role can subscribe to;

19 generating individual service information for each of the one or more services
20 in the list, based on subscriber information and service information
21 that is stored in the directory repository, for use in automatically
22 subscribing the subscriber to a service that is represented by the
23 individual service information.